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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,656	09/28/2001	Scott T. Kohls	G&C 30566.190-US-01	8204

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EXAMINER

GOLINKOFF, JORDAN

ART UNIT	PAPER NUMBER
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2174

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/966,656

Applicant(s)

KOHLS ET AL.

Examiner

Jordan S Golinkoff

Art Unit

2174

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-102 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-102 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The abstract of the disclosure is objected to because on page 52, lines 7-8 there should be commas inserted to make this sentence clearer. Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities:

- Page 4, ¶7 – “constraint constraint” should be changed to “constraint”
- Page 4, ¶8 – “interfaceto” should be changed to “interface to”
- Page 6, ¶23 – “interfacein” should be changed to “interface in”

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 11-15, 17-22, 24-32, 34, 35-38, 45-49, 51-56, 58-66, 68, 69-72, 79-83, 85-90, 92-100, and 102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuffante et al. (“Zuffante,” US006219049B1).

As per independent claim 1, Zuffante teaches a method for defining mating properties of a graphical component in a computer-implemented drawing program (abstract), comprising: initiating an option to create a first constraint interface for a first

Art Unit: 2174

geometric characteristic of a first component (abstract) and persisting the first constraint interface of the first geometric characteristic with the first component (column 24, lines 24-28, *i.e.* – *storing mating properties*). Zuffante does not explicitly disclose that in response to the initiation, displaying a dialog window for specifying settings for the first constraint interface regardless of whether a second constraint interface is currently displayed, wherein the settings define mating properties for how the first geometric characteristic of the first component mates with the second constraint interface.

However Zuffante does disclose displaying a dialogue window to specify settings (column 9, lines 60-64), specifying settings regardless of whether second constraint interface is currently displayed (column 22, lines 48-67) and Zuffante also discloses the settings define mating properties for how the first geometric characteristic of the first component mates with the second constraint interface (column 22, lines 48-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zuffante's method of creating a constraint interface with a means to specify settings using a dialogue window, also taught by Zuffante, with the motivation to allow the user to easily makes changes and additions to a design model (columns 1-2, lines 65-3).

As per claim 2, which is dependent on claim 1, the modified Zuffante teaches selecting a command to place the first component in a display window (column 19, lines 7-18); automatically placing the first component in the display window without further user interaction based on the settings of the first constraint interface (column 19, lines 7-18).

As per claim 3, which is dependent on claim 2, the modified Zuffante does not explicitly disclose that the automatic placement is enabled through an option that is selectable in a dialog window displayed while the first component is being selected.

However, he does teach enabling or disabling features in a design program (figure 17, element 76 and column 9, lines 60-67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zuffante's method of automatic mating placement with a means to enable or disable this feature, also taught by Zuffante, with the motivation to provide users with increased flexibility.

As per claim 4, which is dependent on claim 1, the modified Zuffante teaches that the first constraint interface and second constraint interface each identify a different geometric characteristic but must otherwise be identically configured in order to mate the first component with a second component based on the settings (column 19, lines 7-18).

As per claim 11, which is dependent on claim 1, the modified Zuffante teaches that one or more icons displayed in the dialog window graphically depict a mating property (figure 30, element 403, *i.e.* – *mateGroup1*).

As per claim 12, which is dependent on claim 11, the modified Zuffante teaches the one or more icons are displayed on one or more selectable buttons in the dialog window (figure 30, element 403, *i.e.* – *mateGroup1*).

As per claim 13, which is dependent on claim 1, the modified Zuffante teaches that the mating properties comprise a type of constraint interface (column 19, lines 8-17).

As per claim 14, which is dependent on claim 13, the modified Zuffante teaches that the type of constraint interface is selected from a group comprising mate, angle,

Art Unit: 2174

tangent, insert, rotation-rotation, rotation-translation and translation-translation (column 20, lines 1-14).

As per claim 15, which is dependent on claim 13, the modified Zuffante teaches that the mating properties further comprise a solution based on the type of constraint interface (column 21, lines 6-23).

As per claim 17, which is dependent on claim 1, the modified Zuffante teaches that the mating properties comprise a selection icon (figure 30, element 403, *i.e.* – *mateGroup1*); upon selecting the selection icon, control returns to a display window where the first geometric characteristic is selected (column 19, lines 60-67).

As per claim 18, which is dependent on claim 1, the modified Zuffante teaches that the mating properties comprise an offset for specifying a distance or angle by which the first component is offset from a second component (column 20, lines 1-14).

As per claim 19, which is dependent on claim 1, the modified Zuffante teaches that the composite constraint interface comprises a collection of the first constraint interface and one or more additional constraint interfaces of the first component (figure 30, element 403, *i.e.* – *mateGroup1* and *Coincident2 (Block with Hole <1>)*, *Flange, Bolt*); and in order for a second component to mate with the first component, each of the constraint interfaces in the collection must be mated with a corresponding constraint interface (column 21-22, lines 65-12, *i.e.* – *components must be complimentary*).

As per claim 20, which is dependent on claim 19, the modified Zuffante teaches displaying a copy of an identical glyph for each of the constraint interfaces in the collection upon the creation of the composite constraint interface (figure 30, element 403, *i.e.* – *mateGroup1*).

Art Unit: 2174

As per claim 21, which is dependent on claim 19, the modified Zuffante teaches that the composite constraint interface is created by: selecting the first constraint interface and the one or more additional constraint interfaces (column 19, lines 32-40); and selecting an option to create the composite constraint interface (column 19, lines 8-17 and 32-40).

As per claim 22, which is dependent on claim 21, the modified Zuffante does not explicitly disclose that the option to create the composite constraint interface is invoked by right clicking a mouse button.

However, Zuffante does teach clicking the right mouse button to display a pop-up menu to invoke options (column 7, lines 20-30 and figure 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zuffante's method of creating composite constraint interfaces with a means to invoke them by clicking the right mouse button with the motivation to allow users many ways to create constraint interfaces.

As per claim 24, which is dependent on claim 1, the modified Zuffante teaches that the first constraint interface is created in a part definition mode of the computer-implemented drawing program (column 18, lines 63-65).

As per claim 25, which is dependent on claim 1, the modified Zuffante teaches that the first constraint interface is created in an assembly definition mode of the computer-implemented drawing program (column 18, lines 41-65).

As per claim 26, which is dependent on claim 1, the modified Zuffante teaches selecting a representation of the first constraint interface (figure 30, element 403, *i.e.* --

Art Unit: 2174

*mateGroup1*); and displaying the dialog window to allow editing of the settings (column 9, lines 60-64).

As per claim 27, which is dependent on claim 26, the modified Zuffante teaches that displaying the dialog window comprises: right clicking a mouse button while a cursor is located over the selected representation (column 7, lines 20-30 and figure 6); selecting an option to display the dialog window (column 7, lines 20-30 and figure 6); and displaying the dialog window to allow editing of the settings (column 9, lines 60-64).

As per claim 28, which is dependent on claim 26, the modified Zuffante teaches that displaying the dialog window comprises: double clicking a mouse button while a cursor is located over the selected representation (column 13, lines 1-8); and displaying the dialog window to allow editing of the settings (column 13, lines 1-8 and column 9, lines 60-64).

As per claim 29, which is dependent on claim 1, the modified Zuffante teaches displaying a textual identifier of the first constraint interface in a browser window (figure 30, element 403, *i.e.* – *mateGroup1*).

As per claim 30, which is dependent on claim 1, the modified Zuffante teaches that the textual interface is located at a same hierarchical level as features of the component (figure 30, element 48, *i.e.* – *mateGroup1*).

As per claim 31, which is dependent on claim 1, the modified Zuffante teaches displaying a menu having an option to create the first constraint interface (column 7, lines 20-31); and selecting the option (column 7, lines 20-31).



Art Unit: 2174

As per claim 32, which is dependent on claim 31, the modified Zuffante teaches that the menu is displayed by: moving a cursor over a first geometric characteristic (column 7, lines 20-31); and right clicking a mouse button (column 7, lines 20-31).

Claim 34 is similar in scope to claim 3, and is therefore rejected under similar rationale.

Claims 35-38, 45-49, 51-56, 58-66, 68, 69-72, and 79-83, 85-90, 92-100, 102 are similar in scope to claims 1-4, 11-13, 15, 17-19, 21-22, and 24-34, respectively, and are therefore rejected under similar rationale.

5. Claims 5-9, 39-43, and 73-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuffante et al. ("Zuffante," US006219049B1) as applied to claim 1 above, and further in view of Harrison et al. ("Harrison," US006611725B1).

As per claim 5, which is dependent on claim 1, the teachings of Zuffante in regards to claim 1 have been discussed above. Zuffante does not disclose displaying a glyph located in proximity to the first geometric characteristic wherein the display of the glyph indicates an existence of the first constraint interface.

Harrison teaches displaying a glyph in the proximity of a geometric constraint (column 7-8, lines 52-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zuffante with a means to display a glyph in the proximity of a geometric interface characteristic, as taught by Harrison, with the motivation to allow the user to see that there is supplementary data associated with an object.

As per claim 6, which is dependent on claim 5, the combination of Zuffante and

Art Unit: 2174

Harrison do not explicitly disclose removing the glyph from display once the first constraint interface is mated with the second constraint interface.

However, a glyph located at the location for mating would be covered up by mated parts in some instances thereby removing the glyph representation from the display.

As per claim 7, which is dependent on claim 5, the combination of Zuffante and Harrison do not explicitly disclose modifying the glyph when a cursor is placed over the glyph. However, Official Notice is given that modifying icons when a mouse is placed over them (*i.e. a mouse over event*) is notoriously well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of the combination of Zuffante and Harrison with a means to modify a glyph when a mouse is placed over it with the motivation to provide a visual alert to a user.

As per claim 8, which is dependent on claim 1, the teachings of Zuffante in regards to claim 1 have been discussed above. Zuffante does not disclose displaying a glyph within a browser window wherein the display of the glyph indicates an existence of the first constraint interface.

Harrison teaches displaying a glyph within a browser window where the glyph indicates the existence of a geometric property (column 7-8, lines 52-12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Zuffante with a means to display a glyph in a browser window, as taught by Harrison, with the motivation to allow the user to see that there is supplementary data associated with an object.

Art Unit: 2174

As per claim 9, which is dependent on claim 8, Harrison teaches that glyph graphically represents the settings for the first constraint interface (column 7-8, lines 52-12).

Claims 39-43 and 73-77 are similar in scope to claims 5-9, respectively, and are therefore rejected under similar rationale.

***Allowable Subject Matter***

6. Claims 10, 16, 23, 33, 44, 50, 57, 67, 78, 84, 91, and 101 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamilton et al. (US006559860B1) also teach a method of mating assembly parts.

***Inquiries***

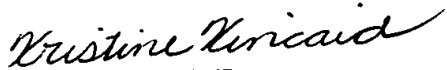
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan S Golinkoff whose telephone number is 703-305-8771. The examiner can normally be reached on Monday through Thursday from 8:30 a.m. to 6:00 p.m. and alternate Fridays.

Art Unit: 2174

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on 703-308-0640. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jordan Golinkoff  
Patent Examiner  
May 7, 2004

  
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